IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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| In re Application of: | Robert I. Garver et al. | | |
| Appln. No. | 09/359,593 | Art Unit: | 1652 |
| Filed: | July 23, 1999 | Examiner: | TO BE ASSIGNED |
| For: | CONTROLLED RELEASE OF BIOACTIVE SUBSTANCES | Atty Docket: | JHV-009.01 |

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, in an envelope addressed to Customer Corrections Branch, Assistant Commissioner for Patents, Washington, D.C. 20231 on September 27, 1999.

Ariel Collazo

**REQUEST FOR CORRECTION OF FILING RECEIPT**

**Customer Corrections Branch**
Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Enclosed is a copy of the Filing Receipt for the above-referenced application.

Please correct the title of the invention from "CONTROLLED DELIVERY OF BIOACTIVE SUBSTANCES" to --**CONTROLLED RELEASE OF BIOACTIVE SUBSTANCES**" as originally submitted on the first page of the specification (copy attached).

Please insert the residences of the inventors as follows:

Robert I. Garver - Hoover, AL;

Subramanian Kalyanasundaram - Gaithersburg, MD;

Kam W. Leong - Ellicott City, MD

Please correct the spelling of inventor "Subramanin" to --**Subramanian**— and insert the middle initial "W." to the name of "**Kam W. Leong**--.

Should there be any questions concerning this request, please contact the undersigned at (617) 832-1169.

Respectfully submitted,

FOLEY, HOAG & ELIOT LLP

September 27, 1999
Date

Kingsley L. Taft
Reg. No. 43,946

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PTO-103X
Rev. 6-99)

FILING RECEIPT

UNITED STATES DEPARTMENT OF COMMERCE
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| APPLICATION NUMBER | FILING DATE | GRP ART UNIT | FIL FEE REC'D | ATTORNEY DOCKET NO. | DRWGS | TOT CL | IND CL |
|---|---|---|---|---|---|---|---|
| 09/359,593 | 07/23/99 | 1652 | $0.00 | JHV-009.01 | 0 | 48 | 9 |

FOLEY HOAG & ELIOT LLP
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Applicant(s) ROBERT I GARVER, RESIDENCE NOT PROVIDED; SUBRAMANIN KALYANASUNDARAM, RESIDENCE NOT PROVIDED; KAM LEONG, RESIDENCE NOT PROVIDED.

CONTINUING DATA AS CLAIMED BY APPLICANT-
PROVISIONAL APPLICATION NO. 60/093,946 07/23/98

IF REQUIRED, FOREIGN FILING LICENSE GRANTED 08/31/99
TITLE
CONTROLLED DELIVERY OF BIOACTIVE SUBSTANCES

PRELIMINARY CLASS: 435



DATA ENTRY BY: HINES, BRENDA TEAM: 06 DATE: 08/31/99

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# Controlled Release of Bioactive Substances



## Related Application Information

This Application claims the benefit of priority under 35 U.S.C. § 119(e) to Provisional Application 60/093,946, filed July 23, 1998, the specification of which is incorporated by reference in its entirety.

## Acknowledgment of Government Rights

The present invention was made in part with support from the U.S. Government under a grant from the National Institutes of Health. The U.S. Government has certain rights in this invention.

## Introduction

The effectiveness of gene therapy is limited in part by the delivery systems used to administer the gene of interest. In general, gene therapy involves the transfer of genetic material into the cells of a patient to provide expression of delivered genes. However, the development of clinical applications of gene therapy has been limited by, among other things, inefficient gene transfer, transient expression, immune rejection, and cytotoxicity. Such a result is not entirely unexpected, because many of the steps required for gene therapy, including cell membrane penetration, intracellular trafficking and nuclear entry of genes, are incompletely understood.

One means of addressing some of these issues involves the use of recombinant viruses. However, the therapeutic utility of recombinant viruses, in particular of adenoviruses, is limited in part by difficulties in directing the viruses to specific sites, and by the requirement for bolus administration, both of which limit the efficiency of target tissue infection. Recombinant adenovirus has emerged as a leading vector for the delivery of new genes to mammalian cells. Advantages include the extensive understanding of the virus biology, well-established methods for the generation of high titer recombinant adenoviruses, and generally high expression of the viral transgene, among others (Curiel et al., Gene Therapy for Diseases of the Lung 104:29-52 ). Two important limitations of the existent